In the Claims:

1. [Currently Amended] A method for measuring optical density, the method comprising:

using electrical circuitry, determining a color on an area;

using electrical circuitry, selecting, based on the color, ~~at least a first illumination source~~ one of a plurality of different illumination sources appropriate to determine optical density of the color on the area;

illuminating the area with the selected illumination source;

receiving radiation from the area responsive to the illuminating; and

converting the received radiation to a signal indicative of optical density of the color on the area.

2. [Original] A method for measuring optical density according to claim 1, wherein the signal indicative of optical density comprises a standardized signal indicative of standardized optical density.

3. [Original] A method for measuring optical density according to claim 2, wherein the converting comprises:

selecting a look-up table based on the color on the area, wherein the look-up table associates the received radiation with a standardized signal indicative of standardized optical density.

4. [Original] A method for measuring optical density according to claim 2, wherein the selected illumination source provides illumination having a first spectrum and said converting comprises compensating for at least one difference between the first spectrum and a standard spectrum to generate the standardized signal indicative of standardized optical density.

5. [Original] A method for measuring optical density according to claim 2, further comprising:

generating a look-up table for converting the received radiation to the standardized signal indicative of standardized optical density.

6. [Original] A method for measuring optical density according to claim 1, wherein converting the received radiation to a signal indicative of optical density comprises:

compensating for the effects of heating of the selected illumination source during illumination of the area.

7. [Original] A method for measuring optical density according to claim 6, wherein the selected illumination source comprises a light emitting diode and the compensating for the effects of heating comprises measuring the voltage across the light emitting diode.

8. [Original] A method for measuring optical density according to claim 7, wherein the compensating for the effects of heating further comprises generating a corrected signal indicative of optical density using a non-linear relationship between the voltage across the light emitting diode and the signal indicative of optical density.

9. [Currently Amended] A method for calibrating a printing apparatus, the method comprising:

printing an area having a color;

based on the color, automatically selecting ~~a first~~ one of a plurality of different illumination ~~source~~ sources in a densitometer without user input; ~~and~~

illuminating the area using the selected illumination source; and

receiving a signal indicative of optical density in the area from the densitometer after the selecting.

10. [Original] A method for calibrating a printing apparatus according to claim 9, wherein:

the printing comprises printing a plurality of areas, each having a color; and

the receiving comprises receiving a signal indicative of optical density in each of the areas.

11. [Original] A method for calibrating a printing apparatus according to claim 9, wherein the signal indicative of optical density comprises a standardized signal indicative of standardized optical density.

12. [Original] A method for calibrating a printing apparatus according to claim 9, further comprising:

compensating for the effects of heating of the selected illumination source during illumination of the area.

13. [Original] A densitometer comprising:

at least a first illumination source to illuminate an area;

a sensor for converting radiation received from the area; and

a processor coupled to the sensor for converting the received radiation to a standardized signal indicative of standardized optical density.

14. [Original] A densitometer according to claim 13, further comprising a plurality of illumination sources.

15. [Original] A densitometer according to claim 14, wherein the plurality of illumination sources comprise light emitting diodes.

16. [Original] A densitometer according to claim 13, wherein the processor is further configured to compensate for the effects of heating of the illumination source during illumination.

17. [Currently Amended] A densitometer according to claim 13, wherein the processor is further configured to determine a color of the area and select [[an]] one of a plurality of different illumination ~~source~~ sources to determine the standardized optical density of the color of the area, and wherein the selection is responsive to the determination of the color.

18. [Original] A densitometer according to claim 13, further comprising a memory coupled to the processor, wherein the memory stores a look-up table for converting the received radiation to the standardized signal indicative of standardized optical density.

19. [Original] A densitometer according to claim 13, wherein the first illumination source is selected from a plurality of illumination sources selected from the set consisting of red, green, blue, and orange.

20. [Currently Amended] A densitometer according to claim 19, wherein the first illumination source is selected from the plurality of illumination sources based on the source having [[an]] a color that is substantially a color complement to an area of a media to be measured.

21. [Original] A densitometer according to claim 13, further comprising a memory for receiving and storing data regarding inks used to print one or more areas to be measured, and means for accessing the stored data to determine the color printed on an area, the data being used to select a spectral wavelength of the at least a first illumination source.

22. [Original] A densitometer according to claim 13, wherein the at least a first illumination source to illuminate an area is exactly a single illumination source having a spectral wavelength range narrower than the spectrum of visible white light.

23. [Original] A densitometer according to claim 22, wherein the single illumination source having a spectral wavelength range narrower than the spectrum of visible white light comprises a light emitting diode having one of a red, green, blue, orange color spectral output.

24. [Original] An article printed using the method of measuring optical density of claim 1.

25. [Currently Amended] A printing apparatus comprising:

means for printing at least one ink on an area;

a controller coupled to the means for printing; and

a densitometer coupled to the controller, the densitometer positioned to illuminate the area and generate a standardized signal indicative of standardized optical density of the area responsive to the illumination.

26. [Original] The printing apparatus of claim 25, wherein the densitometer comprises at least one light emitting diode.

27. [Original] The printing apparatus of claim 25, wherein the densitometer comprises a sensor positioned to receive radiation from the area.

28. [Currently Amended] The printing apparatus of claim 25, wherein the densitometer is configured to determine the color of ink printed on the area and to select at least one of a plurality of different illumination sources for the illumination and corresponding to the determination of the color of ink.

29. [Original] A printing media printed with the printing apparatus of claim 25.

30. [New] A method for measuring optical density according to claim 1, wherein the determining comprises using data regarding a marking agent used to print the color on the area.

31. [New] A method for measuring optical density according to claim 30, wherein image data is used to print the color on the area, and wherein the data regarding the marking agent is accessed from the image data.

32. [New] A method for measuring optical density according to claim 30, wherein the data is provided before the determining.

33. [New] A method for measuring optical density according to claim 30, wherein the data is provided during the printing of the marking agent on the area and the data indicates the color of the marking agent used to print the color on the area.

34. [New] A method for measuring optical density according to claim 30, further comprising accessing the data from storage circuitry.

35. [New] A method for measuring optical density according to claim 1, wherein the determining comprises determining without sensing of the area.

36. [New] A method for measuring optical density according to claim 1, wherein the determining comprises determining before completion of printing of the color on the area.

37. [New] A method for calibrating a printing apparatus according to claim 9, wherein the printing comprises providing data regarding a color of a marking agent used for the printing, and wherein the automatically selecting comprises selecting using the data.

38. [New] A densitometer according to claim 13, wherein the standardized optical density provides optical density information in accordance with a standard predefined before the conversion of the received radiation to the standardized signal.

39. [New] A densitometer according to claim 38, wherein the processor is configured to convert the received radiation to a signal indicative of optical density and to convert the signal indicative of optical density to the standardized signal indicative of standardized optical density.

40. [New] A densitometer according to claim 17, wherein the processor is configured to select the one illumination source using data generated during printing of a marking agent on the area.

41. [New] The printing apparatus of claim 25, wherein the means for printing comprises means for providing data regarding the at least one ink, and one of a plurality of different illuminant sources of the densitometer is selected for the illumination using the data regarding the at least one ink.

42. [New] The printing apparatus of claim 41, wherein the data is provided before completion of the printing of the at least one ink on the area.

43. [New] The printing apparatus of claim 25, wherein the standardized optical density provides optical density information according to a standard predefined before the illumination of the area.

44. [New] The printing apparatus of claim 43, wherein the densitometer is configured to convert a signal indicative of optical density to the standardized signal indicative of standardized optical density.